Date of Submission	2019.03.26

IPL Project (IPL -203) Annual Report Form 2018

1 January 2018 to 31 December 2018

1. Project Title

   Analysis and identify of landslides based on species distribution and surface temperature difference (IPL 203)

2. Main Project Fields

   A. Monitoring and Early Warning, B. Hazard Mapping, Vulnerability and Risk AssessmentName of Project leader

   Ying Guo

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   Core members of the Project
   Zhaoguang Hu, Institute of Cold Regions Science and Engineering Northeast Forestry University, China
   Chunjiao Wang, Institute of Cold Regions Science and Engineering Northeast Forestry University, China
   Chengcheng Zhang,Institute of Cold Regions Science and Engineering Northeast Forestry University, China
   Hua Jiang, Institute of Cold Regions Science and Engineering Northeast Forestry University, China

3. Objectives: (5 lines maximum)

   Under the permafrost, landslides and other complex geological conditions investigation, design, construction and monitoring technical of express way expansion project.

4. Study Area: (2 lines maximum)

   Beian - Heihe Expressway Extension Project K160~K182 Section

5. Project Duration (1 line maximum)
   2016.08-

6. Report

1) Progress in the project: (30 lines maximum)

Geological surveys were carried out in the study area and drones were used to survey the distribution of tree species. Tree core sampling was conduct at the sample sites, and then to get tree age, and finally to determine changes in landforms history combining the tree age.

2) Planned future activities or Statement of completion of the Project (15 lines maximum)

Plan to conduct larger range of Geological survey and tree core sampling in the study area and to conducted to draw landscape evolution map.

3) Beneficiaries of Project for Science, Education and/or Society (15 lines maximum)

Climate change has become a hot issue of global concern, melting permafrost caused by climate change led to many landslide, which have a dramatic impact on the regional environment, ecology and construction project. It has important scientific and engineering significance to carry out long-term monitoring and analysis for this hot issue.

4) Results: (15 line maximum, e.g. publications)

1. Attending the 2nd Asian Science and Technology Conference for Disaster Risk Reduction, 17-18 April 2018,Beijing, China, with the theme 'Science-Policy Dialogue for Implementation of the Sendai Framework'.

2. Holding Seminar on "Engineering and environmental geology in the permafrost region along the Sino-Russian-Mongolian Economic Corridor under the background of climate change" and the Annual Academic Conference of 2018 of ICL-CRLN and the Cold Region Landslide Research of IPL-WCoE held in Harbin.

3. Seminar on "Engineering and environmental geology in the permafrost region along the Sino-Russian-Mongolian Economic Corridor under the background of climate change" and the Annual Academic Conference of 2018 of ICL-CRLN and the Cold Region Landslide Research of IPL-WCoE held in Harbin[J].Guo Y, Zhang C, Han Q, et al. Landslides:1-5.

4. Development of a frozen soil dielectric constant model and determination of dielectric constant variation during the soil freezing process[J].Ying G, Shuang X, Wei S. Cold Regions Science & Technology, 2018, 151:28-33.

5. TXT-tool 4.086-1.2: Shallow Landslides and Plant Protection in Seasonal Frozen Regions[J].Ying G, Wei S, Sun Y, et al. 2018

6. TXT-tool 4.086-1.2 Shallow Landslides and Plant Protection in Seasonal Frozen Regions. Landslide Dynamics: ISDR-ICL Landslide Interactive Teaching Tools, Ying Guo, Wei Shan, Yuying Sun, and Chengcheng Zhang. Springer International Publishing AG 2018. 693-702.